FEBRUARY 1954

c-1

FIREMEN

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- Power Brakes √
- Power Steering (optional extra) √

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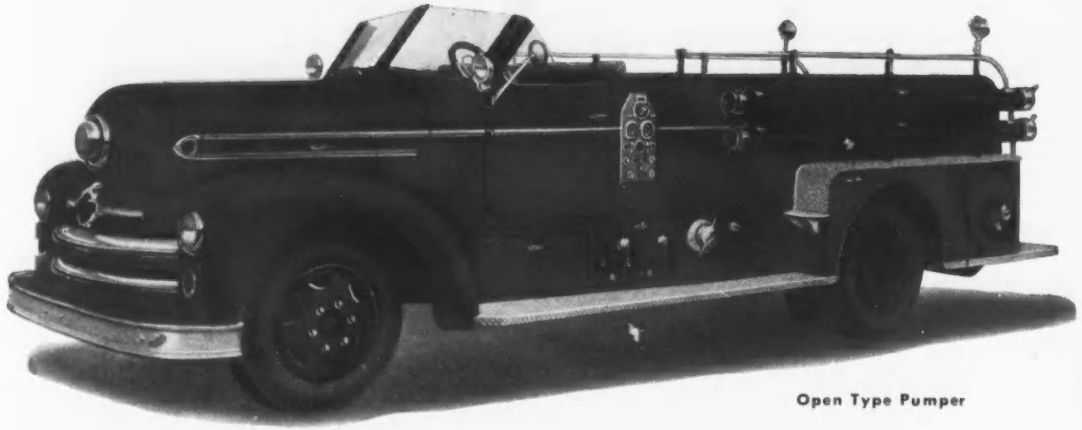

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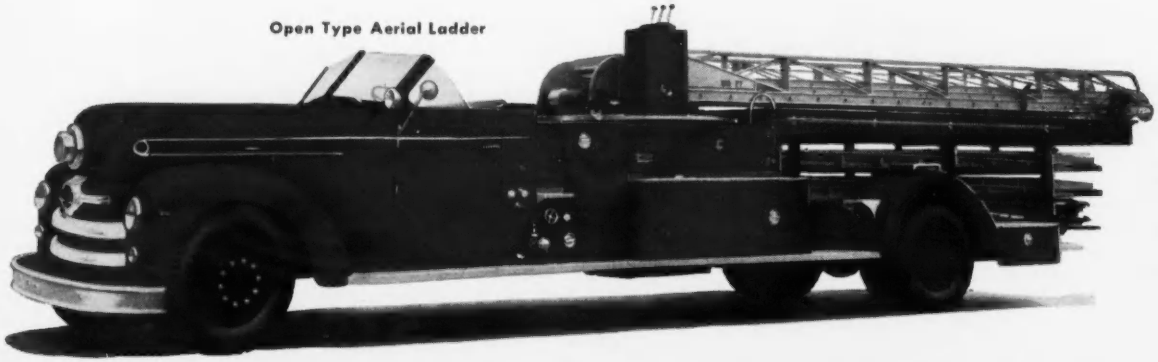

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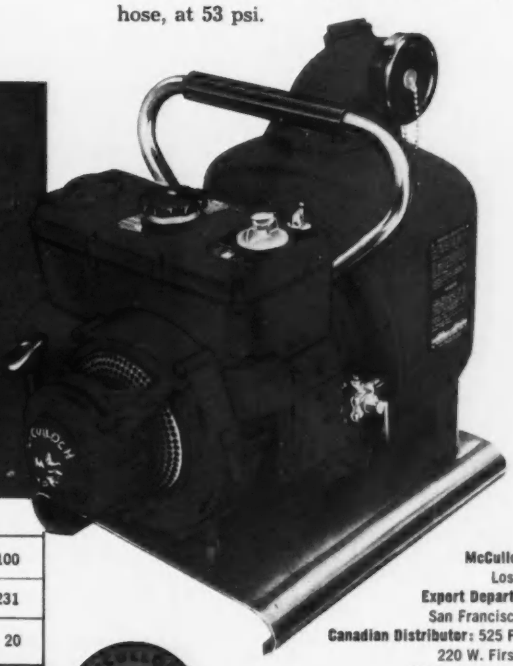

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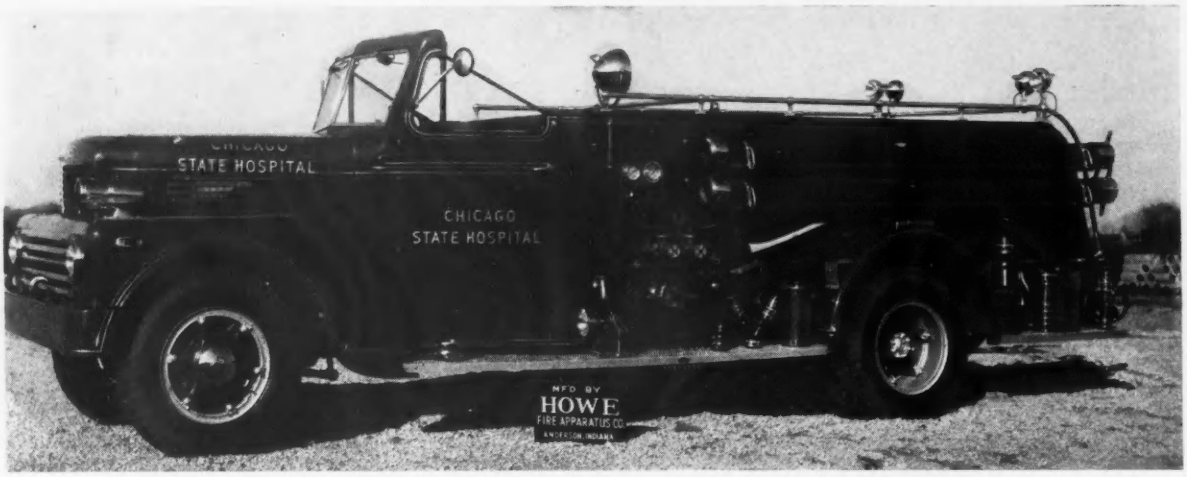

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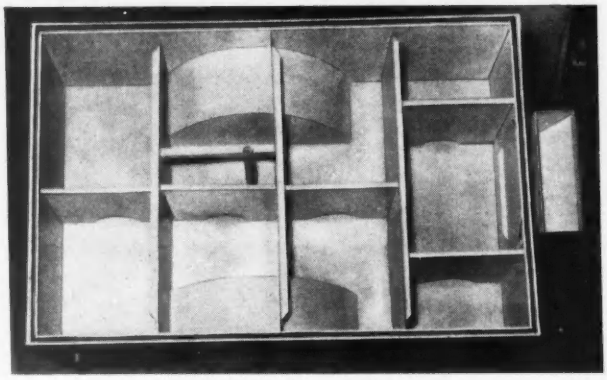

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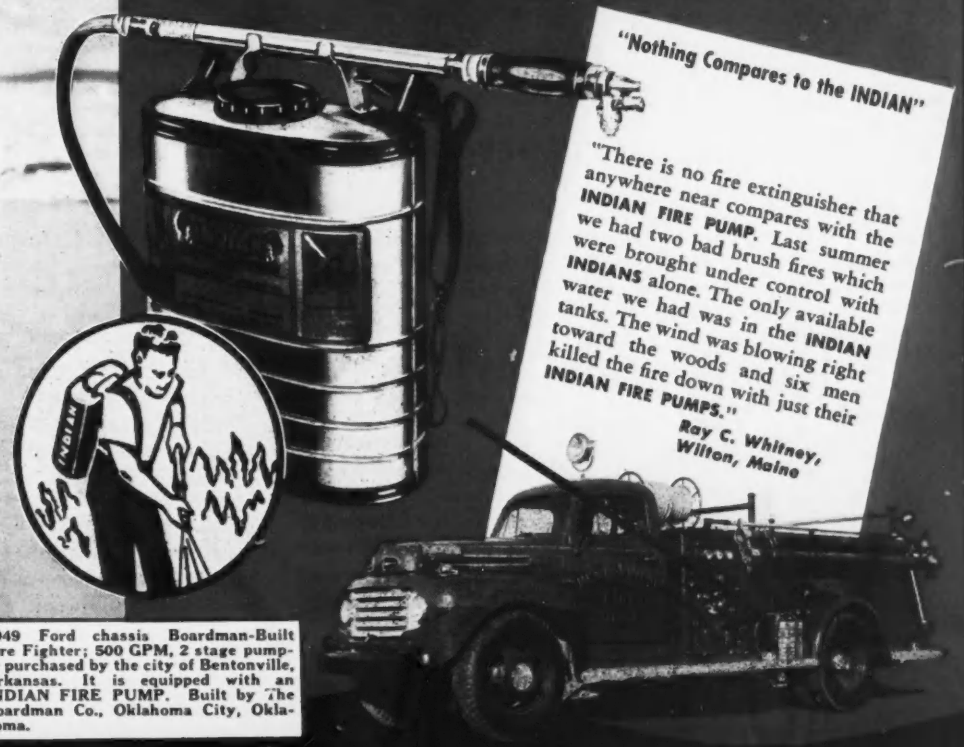

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NEW WARD LA FRANCE PUMPER was recently delivered to East Providence, largest U.S. town operating under town meeting system. Standing beside pumper are Francis J. Erkman, left, Chairman of town's Fire Committee, and I. A. Ballou, Jr., New England Agent for Ward LaFrance.

Ward La France protects East Providence, R.I.

Under council president James J. Reilly, East Providence, R.I. has in 2 years time laid over 150,000 feet of new water main . . . built an addition to its central fire station . . . added many men to its personnel . . . and is now building its sixth fire station. This town of 40,000 also has built a five million-dollar high school and an extensive sewer system.

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Firemen

Volume 21 Number 2

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NATIONAL FIRE PROTECTION ASSOCIATION

A VOLUNTARY NON-PROFIT ORGANIZATION
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A Piece of Rope

Most fire fighters make early acquaintance with rope in their basic training classes. They quickly learn how to make a square knot rather than a "granny." They also know how to fashion a quick clove hitch, bowline, or bowline-on-a-bight. During "idle" hours in the fire station some fire fighters find relaxation in playing with rope and making numerous types of knots which serve useful purpose in hoisting hose lines, guiding ladders, or in lowering a rescued person or heavy equipment.

In the haste of fire and rescue action, rope, the "fireman's friend," is sometimes forgotten. Winter tragedies focus attention on one aspect of this neglect. The "small boy and thin ice" requires numerous runs for fire departments in Northern states. One such response in December brought death to two fire fighters and a 9-year-old boy whom they were attempting to rescue. Crawling along ladders on inch-thick ice they managed to touch the boy with a pike pole when suddenly the ice collapsed. All three went into the water and drowned.

In such a situation, the "fireman's friend," serving as a life line, might mean the difference between a ducking and death.

Cover Picture

Fire fighters have encountered many situations where panic during a fire has resulted in needless injury or death to occupants. They appreciate the difficulties of coping with persons who act with unreasoning haste to avoid fire which may or may not be an immediate threat to the individual's safety. Such circumstances require calm actions on the part of the would-be rescuer, or else a bad situation may end in tragedy.

A commendable calmness was evidenced by U. S. Navy Commissary Steward Seaman Richard K. Sowle of West Warwick, Rhode Island, on January 12. He was in the building adjacent to the one shown above, and on this month's cover, when he heard a woman screaming. Upon investigating he saw the woman on the icy roof outside the window of the 3-story apartment building. The outpouring of smoke from the dormer (right) apparently had panicked her and she was threatening to jump. Seaman Sowles crawled onto the roof from the adjacent building (left of cover photo), and held the woman until Newport fire fighters arrived with an aerial truck. Another Navy man was ready to lend assistance in the rescue.

Seaman Sowle demonstrated the "know-how" for making a fire rescue, which includes an appreciation of the element of timing. Whether it is necessary to move quickly to safety from an enclosed area, or from a falling wall, there is usually a small segment of time available which may allow safe escape.

No one is immune to the emotion of panic. A sudden burst of flame or smoke, a loud explosion, or the crack of breaking timber effects a warning tug in the vitals of the stomach. Unless the individual concerned has acquired sufficient self-discipline through training or experience, this sensation can lead to panic and dangerous reaction. The more dangerous a situation is, the greater is the need for full control of one's faculties.

In rescuing such a victim from any situation, fire fighters must evidence sureness of action, but more important, their mannerisms must inspire confidence in the victim and assurance that, despite the degree of danger, there still remains sufficient opportunity for safe escape. (*Cover picture and photo above both AP Wirephotos.*)

More Fire Control Tests with "Fog"

Based upon a report prepared by Malcolm H. Nickerson, Assistant Director, Factory Mutual Laboratories, Norwood, Massachusetts. Photos through courtesy of Alan C. Neilson, Chief Project Engineer, Bete Fog Nozzle, Inc., Greenfield, Massachusetts.

Spectators watch one of the test fires held in the State garage at North Scituate, Rhode Island, while clouds of steam show that fog application is displacing heat.

IN FURTHER investigation of the efficiency of water "fog" application on Class A fires, the Woonasquatucket Valley Firemen's League, of Rhode Island (NFPA member), conducted a series of fire control tests on December 5th. The tests were planned by the League's Engineering Committee headed by Chief John Murphy of Centerdale, assisted by Warren Y. Kimball, Manager, NFPA Fire Services Department, and Malcolm H. Nickerson of the Factory Mutuals Laboratories. The building selected was a condemned former State garage located at North Scituate, R. I.

Readers may recall the report, "Testing the Features of 'Fog'" which appeared in the July, 1953, issue of FIREMEN magazine. Similar preparations of the test building were made for this more recent study of fire control.

In the July tests, a variety of fog nozzles were used to obtain comparison of various streams. Both high- and low-pressure nozzles were examined. In the December 5th tests, only one nozzle was used in order to get comparable results with a nozzle permitting preset fog patterns. This was the "Select-O-Stream" 1½-in. fog nozzle made by the Elkhart Brass Manufacturing Company of Elkhart, Indiana. Flow tests were taken on this nozzle, prior to its use under fire conditions. Operating at 50 psi, the nozzle delivered 61, 72.5, and 57.5 gpm when used, respectively, for a 30 degree fog pattern, a 60 degree fog pattern, and as a solid stream. Operated at 100 psi, the nozzle produced 86.5, 103, and 82 gpm for the same respective positions.

(*Below*) Malcolm H. Nickerson, Assistant Director, Factory Mutual Laboratories, Norwood, Massachusetts, took readings from this Brown pyrometer during all of the fire control tests. He was assisted by Paul R. Lyons, Assistant Manager, NFPA Fire Services Department.

ANOTHER objective of the fire control tests was to examine the amounts and types of gases that developed during the various stages of typical Class A fires. Results of these gas analyses are indicated in the table on Page 12 of this issue. During the five test fires, 18 gas samples were obtained. A 3-ft. length of glass tube was connected with rubber tubing to a gas pump, the discharge of which forced the fire gases into one-gallon capacity jugs. Efforts were made to have each jug thoroughly filled with gas before being sealed. These tests demonstrated conclusively the importance of respiratory protection as an adjunct to effective inside attack with fog nozzles.

Another item of interest, a pumper relay evolution, was incorporated in the day-long program. A 500 gpm pumper of the Georgeville Fire Department was located at a water source approximately 1700 ft. from the test building. Water was relayed from this pumper through 1400 ft. of 2½-in. hose to a 750 gpm pumper of Johnson Hose Company No. 3.

This second pump supplied 150 ft. of 3-in. hose to a gated 2½-in. wye. From this wye two lengths of 2½-in. hose were taken; one to supply the 450-gallon tank of North Scituate's No. 3 engine, which in turn supplied the 1½-in. test line. The other length of 2½-in. hose from the gated wye supplied two 1½-in. lines with a NAP nozzle and an applicator. These last-mentioned lines were used as stand-by lines in case the fire went beyond control.

Before the fires were started Pitot readings were taken to determine the available water supply. Maximum flow obtained was 240 gpm measured with 1⅛-in. nozzle tips. The highest nozzle pressure was 70 pounds on a $^{15}/_{16}$-in. tip. This data indicated that three 1½-in. lines could be operated during the tests.

PICTURES and diagram of the test building are shown on Page 11. The sketch indicates locations of crib fires within the building. The

(*Below*) Richmond Kent (*at left*) is shown taking gas samples during one of the tests. A 3-ft. length of glass tube connected through rubber tubing to a gas pump served to fill the 1-gallon glass jugs with gas which was later analyzed.

(Left) Test building as seen from the east side doorway in center was closed when fires started, then opened just enough to allow fire fighters to move in with the fog nozzles. (Right) View of the south end of the garage. After the 5 tests were completed, several small fires were started in this section and extinguished with applicator nozzles.

cribs consisted of approximately seven or eight oak railroad ties split and sawed and piled into 4-ft. cubes. Two 20-gauge thermocouples were placed at points under the roof of the building and temperatures were read on a Brown pyrometer.

A total of five tests were conducted under closely similar conditions. Air temperature varied between 57 and 60 degrees; relative humidity varied between 43 and 51 percent; while a west to southwest wind averaging about six miles an hour existed during all test conditions. After fires were started, no fire fighting was begun until the temperature in the attic spaces registered 600 degrees or more. When this occurred, a signal was given to the nozzle crew and water application was started. All fog streams were directed towards the ceiling of the garage above the wood cribs.

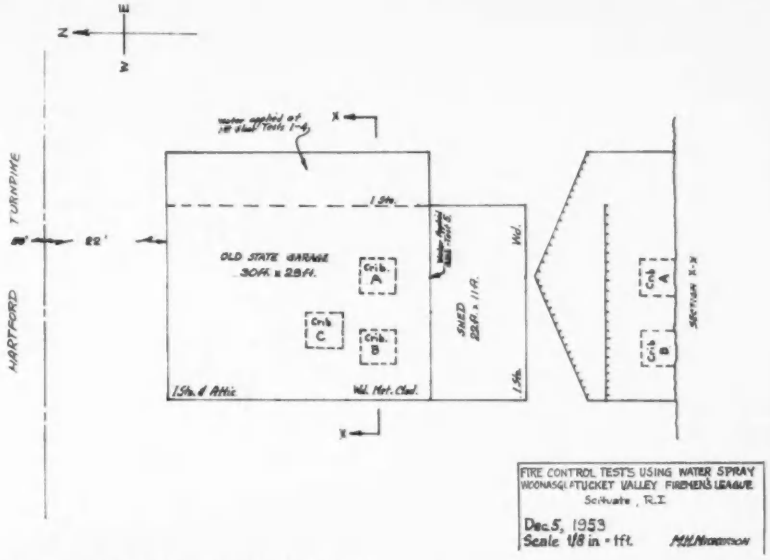


Diagram of test building showing location of cribs. Writing in upper left-hand corner of shed area refers to water application which was made in the attic during Test 5.

IN THE first test, fire was started in Crib A. Where 50-lbs. nozzle pressure was employed the Crib A location nearer the door was used. With 100-lb. nozzle pressure, Crib B location was used to require greater range of stream. The "Select-O-Stream" nozzle was adjusted for a 30 degree fog pattern. With 50 psi at the nozzle and 61 gpm flowing, it required 1 minute and 23 seconds to extinguish the fire. Only 85 gallons were used.

In the second test the same 30 degree pattern was used with 100 psi nozzle pressure. With 86.5 gpm flowing, only 1 minute and 15 seconds elapsed before the fire was extinguished with 130 gallons of water even though greater reach of stream was required.

A 60 degree nozzle setting was used in the third test and nozzle pressure was 50 psi. With 72.5 gpm flowing at the nozzle only 1 minute and 15 seconds elapsed before the fire was extinguished with 91 gallons of water.

In the fourth test the 60 degree pattern was again used. Nozzle pressure was 100 psi and 103 gpm was flowing. In this case the nozzle crew was operating 25 ft. away from the fire. The wide angle of this fog pattern was not effective for gaining control of the test fire. After about 1 minute and 55 seconds of water application, the nozzle setting was adjusted for a 30 degree cone, but because of lost time the fire gained an intensity requiring additional application of water through the 30 degree setting.

In the final test the nozzle was again operated with a 30 degree setting and 100 psi nozzle pressure with 86.5 gpm discharge, the fire was extinguished in 2 minutes and 41 seconds.

As indicated in the pictures and diagram on this page, water application was made from a narrow door opening on the east side of the building. When fires were started, this door was kept closed until temperatures on the thermocouples reached approximately 600 degrees. When the door was opened for water ap-

(Continued on next page)

(Below) Another view of a test fire showing steam displacement from the eaves of the building. White line running to lower right corner is wire from a thermocouple to the pyrometer. At right of building may be seen helmets of a chief and fire fighter who are following nozzle crew into the fire area.

plication, the inward rush of oxygen caused a rapid rise in the recorded temperatures on the Brown pyrometer.

As had been more or less anticipated, the only fire-fighting difficulty occurred in Test 4. In this instance with the nozzle set for a 60 degree fog cone and operated at 100 psi, there was an initial reduction of temperature from a fire started at Crib B. However, the wide fog pattern, applied from about 25 feet distant from the fire, was not sufficient for successful absorption of heat, and the fire temperature again began to rise and the fire appeared to be getting out of control. Control of the fire was established as soon as the nozzle setting was changed to 30 degrees.

Meanwhile fire had spread to the attic space which was open on the entire east side of the building. The standby applicator spray nozzle was then discharged to the attic space, and the fire was successfully extinguished.

AS IN the July tests, a number of the members of the Woonasquatucket Valley Firemen's League cooperated to make the December 5 tests useful both for evaluating extinguishing effect of fog patterns and as a practical training evolution. The North Scituate Fire Department, headed by Host Chief Ramsdell, not only provided pumpers and manpower for the tests but the Ladies Auxiliary also provided refreshments throughout the day for fire fighters and guests who attended. The Scituate Ambulance Corps had a standby ambulance ready for duty.

Radio communications were very useful in the pumper relay evolution and in assuring that sufficient water was available for application on the fires. Arthur Bartlett of the Greenville Fire Department, was responsible for the smooth operation of radio communications. Fire fighters of Johnson Hose Company No. 1 headed by Deputy Chief Angelo, served as the nozzle crew throughout the entire fire tests under the direction of Chief Murphy and Warren Kimball. All companies participating in the inside fire fighting used gas masks, including the MSA Chemox type and Scott Air-Paks.

EXTENSIVE preparations were necessary to provide proper test conditions for fog application on Class A fires. While the abandoned State garage was in good condition, with 7/8-in. boards on joists covered with composition roofing, shoring of

(*Continued on page 15*)

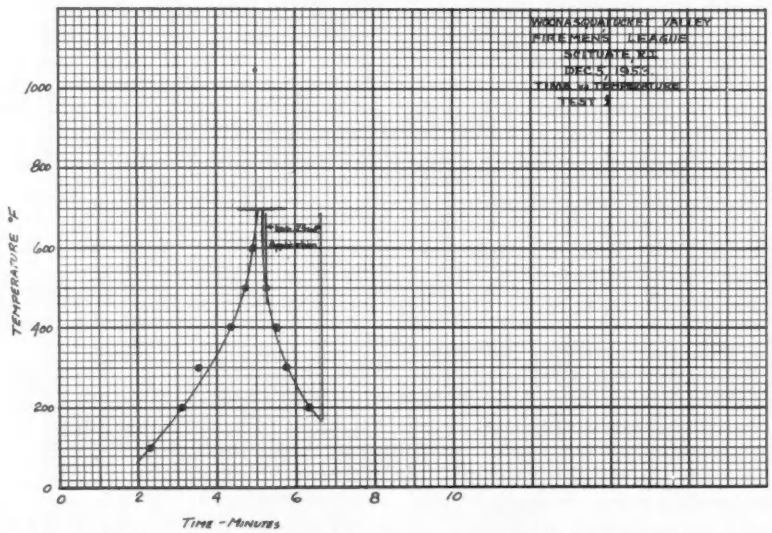
ANALYSIS OF FIRE GAS SAMPLES

Test No.	Time P.M.	Time After Fire Lit	Where Sample Taken*	% CO_2	% O_2	% CO
1	12:46	5 min.	A	4.2	16.5	?**
1	12:48	7 "	A	4.6	16.0	.1
2	1:03	9 "	A	3.8	17.1	0
2	1:05	11 "	A	6.1	14.0	1
2	1:08	14 "	A	.8	20.2	Trace
3	1:24	8 "	G	.4	20.8	0
3	1:32	16 "	G	1.1	19.7	Trace
3	1:34	18 "	G	1.5	19.5	0
3	1:36	20 "	G	0	21	?**
4	1:43	1 "	A	.7	20.2	Trace
4	1:47	5 "	A	2	19	Trace
4	1:51	0 "	A	4.7	15.9	.4
4	1:52	10 "	A	2.7	18	.3
4	1:55	13 "	A	7.6	12.5	.9
5	2:26	11 "	G	0	21	?**
5	2:30	15 "	G	0	21	0
5	2:34	19 "	G	1.1	19.5	?**
5	2:41	26 "	A	0	21	0

* Samples taken South End Attic (A); SW Corner 1st St. (G)
** Trouble with CO reagent.

A review of the book "Noxious Gases" by Henderson and Haggard, Reinhold, 1943, shows that simple asphyxiation due to oxygen deficiency will occur when the oxygen concentration is less than 14%. The authors state that .15-.2% CO is dangerous if the exposure exceed one hour. Concentrations in excess of .4% CO are fatal in exposures lasting less than one hour. In all tests, therefore, the use of proper breathing apparatus would be essential to efficient fire fighting. Such apparatus was used throughout the subject tests.

Results of analyses of fire gas samples are shown in this chart. Gas concentrations are considered to be a little less than may have existed in the fire area, since the method of sealing the gas in the glass containers allowed possible entrance of air which would dilute the gases. Note that in several of the tests hat sufficient Carbon Monoxide existed to make the atmosphere dangerous to fire fighters under prolonged exposure even though the fires were above grade and attack could be made by advancing the line through a door. However, without respiratory protection it would have been difficult or impossible to maintain the test nozzle in the desired position.



Typical graph of temperatures and time. These curves were compiled during Test No. 1. Water application was begun when the Brown pyrometer recorded 700 degrees, and 1 minute and 23 seconds passed before temperatures fell below 200 degrees, indicating that the fire was almost completely extinguished.

Courtroom Presentation of Cases Involving Arson

By Harold McGrath, Special Assistant District Attorney, Milwaukee County, Wisconsin

On November 16–19, 1953, the Milwaukee Fire Department, under the direction of Chief Edward E. Wischer, presented a short course on Arson Detection and the Process of Conviction. Fire fighters and police officers attending the course heard an informative discussion of courtroom presentation by Mr. McGrath. The material on these pages is excerpted from his talk.

SOMEWHAT akin to the work of a detective is investigation by the fire fighter of fire causes, except that the latter's work begins with the sound of the fire alarm. Since the fire fighter is primarily concerned with preventing loss of life and property, he has the disadvantage of working against time. It is especially true in the case of an incendiary fire where, by reason of careful preliminary planning by the starter of the fire, every possible obstacle is thrown in the fire fighter's way and attempts are made to destroy every possible clue of the cause and of the individual who started the fire.

If you are a fire fighter, you may be called upon sometime to furnish sufficient evidence within reasonable possibility to prove a fire to be of incendiary origin. While at the scene of the fire, you may acquire certain information by observation, by use of the senses, by impounding containers used for liquids and other evidence, which, when assembled, may "spell out" that the fire was of incendiary origin.

The greatest difficulty is that this information is acquired "on the fly" for you anticipate returning and rechecking, after extinguishing the fire. But often on return the evidence may no longer be available, or even in existence, when a recheck is made. I should like to direct your attention to the marshalling of information and the assembling of that proof for presentation in the prosecution of an arson case before the courts.

WE KNOW that arson is included in the toughest class of litigation to prove legally. We know that every fire is presumed to be accidental in origin until it can be shown beyond a reasonable doubt that the fire was of willful and malicious origin. The fire fighter's observation plays a most important part in building the case of arson.

If it were possible, we would like to have the fireman make notes of his observations on the spot in a notebook for later reference, but we know that this is not practical and consistent with the job of fire extinguishment. However, you, as a fire fighter, can confer with, and draw attention of fellow firemen to the suspicious facts or articles so that your testimony may later be corroborated. You can "latch on" to every bit of information that looks suspicious including odors, containers of liquids, location of merchandise, furniture, and color of smoke and flame.

The proof of arson nearly always rests on circumstantial or indirect evidence. This information can be imparted to the District Attorney, in the Courts, when it is required, because sooner or later the fireman may be questioned concerning his knowledge, and if he appears in court the State depends upon him.

TO SHOW you the value of circumstantial evidence, I wish to tell you of a fire that occurred on Linus Street in Milwaukee not long ago. Later, an individual was brought to trial on a charge of arson in connection with that fire. The case was handled in our Municipal Court presided over by Judge Herbert J. Steffes, and I believe that part of his charge to the jury, pertaining to the question of circumstantial evidence, is worthy of repeating here.

Judge Steffes: "In this case all of the evidence produced by the State is circumstantial. There is no direct or positive evidence that the defendent committed the crime charged. To warrant a conviction on circumstantial evidence each fact necessary to the conclusion sought to be established, must be proven by competent evidence beyond a reasonable doubt, and all the facts necessary to such conclusion must be consistent with each other and with the main facts sought to be proved, and the circumstances, taken together, must be of a conclusive nature, leading on the whole to a satisfactory conclusion, and producing, in effect, a reasonable and moral certainty that the accused, and no other person, committed the offense charged. The mere union of a limited number of independent circumstances, each of an imperfect and inconclusive character, will not justify a conviction. They must be such as to generate and justify full belief according to the standard rule of certainty. It is not sufficient that they coincide with and render probable the guilt of the accused, but they must exclude every other reasonable hypothesis. No other conclusion but that of the guilt of the accused must fairly and reasonably grow out of the evidence, but the facts must be absolutely incompatible with innocence and incapable of explanation upon any other reasonable hypothesis than that of guilt."

I might say that the man was found guilty of arson.

NOW we come to the point of collecting evidence and the proving of it in its presentation before the Court. The Fire Department has the right to seize anything found at a fire which may constitute evidence as to the origin of the fire to have any bearing on it. Here we reach a very important point in connection with the trial of arson — it is the matter of identification and preservation of evidence.

Usually it is better to leave evidence of certain situations at the fire until it can be photographed and observed by a number of firemen. But before its removal it should be carefully and accurately marked by the man who will be able to testify concerning it. Scratch your initials on the container if you can do this without destruction to the exhibit. Put your initials on a bit of evidence with pen and ink, if possible, and make "on the spot" notes in a book as to any apparent distinguishing characteristics of the exhibit over similar objects. You as the witness can then state on the stand that the exhibit is the object you found — and you can back it up by pointing out your individual marking.

It is better if the man who finds and marks the evidence exerts exclusive control over it until it reaches the courtroom. Keeping it under lock and key is best — with the fewer persons handling it the

better. The State has to show an unbroken chain of custody — referred to legally as the "evidentiary escort."

Sometimes it is necessary for the State to secure the services of experts to prove its case. To do that it may require analyses of substances acquire at a fire. Under such circumstances it would be most desirable for the fireman who acquires the evidence to take it to the Crime laboratory, remain until the tests are completed and return with the exhibit. In this way the "evidentiarey escort" would remain unbroken and would successfully withstand attack in court by the defense.

In a murder case involving the shooting of three people, a Milwaukee policeman investigating the crime marked each cartridge case with an "X" with a pencil, and turned them into Police Headquarters. That is the poorest kind of identification. The officer should have put his initials on the shells and some identification as to which shell was the one found in a particular place. When we got into the trial of that case, the lawyer for the defendant took the four shells, shook them in his cupped hands and threw them on the table and asked the officer where he got this one, which one he found in the kitchen, etc. The officer realized he was trapped — he couldn't say where he found which shell — and here we had a man on trial for murder. This certainly pointed out the importance of identification.

YOU can see from this case that it is highly important to have "on the spot observations," as well as positive identification of items connected with your case, if you wish to bring it to a successful conclusion.

We had a somewhat similar situation develop during the recent case involving the Calvary Presbyterian Church fire. A highly controversial point developed in the identification of a container used as evidence and only because it could be positively identified was an important link in the chain of evidence completed.

I mentioned earlier that I wanted to say something more of "evidentiary escort." It was formerly our practice to send materials by express or mail to the State Crime Laboratory and the Federal Bureau of Investigation for examination and determination.

When tests were completed, the materials would be returned in the same way, with the Federal Bureau of Investigation occasionally sending an expert along to testify. The defense attorneys had us in hot water in trying to prove "evidentiary escort" with the materials being out of control under such circumstances, and the procedure has now been altered to insure our ability to prove evidentiary escort.

IN ADDITION to information and evidence being acquired by observation and by impounding, we have the important need of keeping a record of persons present at the fire and of conversations. If you overhear conversations bearing on the case, you should not only note the conversation, but also those who are present, and those who also heard it. It is highly important that testimony be corroborated when we get into court. It makes a big impression on the jury.

About a month ago, a fire broke out at the Bay View Sash and Door Company, about 1:15 in the morning. The equipment of the fire department arrived at the scene very rapidly and almost at the same time two detectives were there in a squad car.

In the course of the work, they saw a man named —— standing around and taking an interest in the procedures. One of the detectives said "That's ——," but the other detective didn't know him. However, they questioned him and learned enough to warrant taking him down to the main station for further questioning. There they obtained information sufficient to charge him with arson and that case is now pending trial.

Your attention is called to this because it was another neat bit of alert "on the spot" observation. It could also be done by a fireman, if he knew a certain person to be one involved in other fires. People who seem to continually show up at the scenes of fires, who always want to "assist," might be the type to keep an eye on.

I know of another situation where a citizen was able to put the finger on an unsuspecting arsonist. There were several fires in the vicinity of 16th and Wells Streets and a tenant named —— stated that he had seen a former janitor of several buildings in the neighborhood just before the fires. He only knew him as Freddy — but this information was given to the Deputy State Fire Marshal, William Rossiter, who checked police files and found that a Frederick —— had been arrested in connection with a fire at the Astor Hotel while working as a bell-hop there. When he was again picked up and questioned about the hotel fire, he admitted starting it, but said he didn't have anything to do with the one across the street. Then he was questioned closely about that fire and eventually confessed to starting that one too. The fires in that vicinity were cleared up and he was sent to jail. However, he is now on probation and it would be a good thing if all the firemen could see his picture in order to place him in mind — he is a weak man mentally — but he looks like a fullback.

When —— made his statements to the police, they came under the heading of voluntary confession and such statements are competent to be used against him. A man does not necessarily have to be advised of his constitutional rights, but statements must be freely and voluntarily given without any threats, abuse, force, coercion, inducement or promises, or while the defendent was under the influence of fear of physical punishment by those having him in custody. The courts have held that a free and voluntary statement against interest, if made with deliberation and clearly proven, is deserving of the highest credit because it is presumed to flow from the strongest sense of guilt.

The burden of proving that such statement was free and voluntary, and not improperly obtained, is upon the State, and must be proven by evidence beyond a reasonable doubt. The taker of the statement must necessarily consider the defendant's age, education, experience, character, intelligence, previous training and the susceptibility of the defendant to threats and coercion. It is during such examination that the questioner has to draw heavily on his ability to judge human nature.

The method of being slow and deliberate, not oppressive, but polite and even kindly, pays dividends.

Many times you can get farther in securing a statement by letting the arsonist "stew" in his own worries. What will work in one case, will not work in another. The problem of when to be tough, and when to be otherwise, is to be determined as you progress in each case.

IN THE event that the District Attorney is not present or aware that such statements have been taken, he should be so informed as early as possible in order for him to review the facts thus obtained with the firemen who will finally be witnesses for the State in the trial. By such close cooperation the firemen can be warned of existing pitfalls and guided safely over them. Firemen are not called upon to testify in criminal cases as often as police officers. Upon being subpoenaed many become frightened — they picture themselves in a position where they can be made to appear ridiculous.

The fact is that an observant, well prepared fireman on the factual situation of a fire, knows more about that fire than anyone else in the courtroom. He knows more about fires than the State's attorney and the defense counsel. He can safely rely on his knowledge, experience and preparation. He is loaded with facts and with truth, and that is what a judge or jury is looking for.

In addition, after having thoroughly informed the State's attorney as to all he knows about the case or trial — the State's attorney is in a position, by proper and timely objection, to keep defense counsel in line and to protect the State's witness from any unjust and any uncalled for attack. Between the two they should know more about that fire than anyone in the courtroom — except perhaps the arsonist and he may not choose to testify.

IN ORDER that you may become familiar with court procedures, I have a suggestion. Many people never get into a courtroom, but because of his occupation, any fireman may be called as a witness. It would be well for every fireman to be a spectator at some kind of criminal trial so that he can observe what it is like. It will help to remove stage fright and uneasiness if he ever should be called as a witness.

As I have said before, arson is tough to prove. The State relies heavily on the preparation of the fireman. We do not like to lose a case — but if we should lose, we make a note of the cause of our defeat and then make every effort to avoid a similar weakness in the future. You can do the same, and you will find it pays off.

Before closing, I must leave a word with you relative to the use of the transcript of testimony taken at a preliminary hearing. When a man is arrested, let us assume it is for arson, his first stop is the Police Department, with the next step being the District Court. He is then granted a preliminary hearing, and if he does not waive it, the Judge listens to all the testimony in order to determine that the defendant committed the deed for which he is charged. If so, the defendant is bound over for trial on the merits of the case in Municipal Court. All of the testimony taken in the District Court is reduced to writing by the Court Reporter and the transcript accompanies the defendant into Municipal Court. There it may be used to confront a witness who appeared in the District Court.

If you give testimony in such a case, the defense attorney will be listening to your answers and making notes on his copy of the transcript. When he has opportunity to question you, he will ask whether or not you appeared in District Court, testified to "so and so," and then attempt to confuse you because of a difference in your answer in the higher court. When you are thus questioned, admit you testified, but listen to the transcript and if the wording of it is not correct, say so. The District Attorney will give you a chance to explain your answer. No one expects you to answer all the questions by rote.

The uniform of a fireman inspires confidence. The sincere and business-like attitude of the fireman at all times is carefully noted and justly rewarded. In Court, if he speaks clearly, so that his answer is understood by all who hear him, he will be entitled to and receive the recognition and reward for his hard work that he so richly deserves.

THE FIREMEN'S RESPONSIBILITY IN ARSON DETECTION

A thorough presentation of the firemen's responsibility in finding, protecting and reporting evidence of arson. Special attention is devoted to preserving of evidence and testifying in court. Approved by the NFPA Fire Marshal's Section.

Price, 50 cents per copy

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Disability Compensation and Income Tax

By Kenneth R. MacDonald

SAN FRANCISCO, California, fire fighters recently won an important ruling from the Bureau of Internal Revenue. The Bureau ruled that firemen need not pay income tax on disability compensation.

The ruling comes out of the fact that disability payments amounting to full salary are given to San Francisco firemen, for a limited time, when they are injured on the job.

Ordinarily workmen's compensation is a fraction of full salary and, as such, is excempt from income tax payment. Now, however, the Bureau of Internal Revenue has ruled that "Inasmuch as the taxable status of compensation insurance payments received by firemen, as provided in the Charter of San Francisco, is factually similar to workmen's compensation, the Bureau will hold these payments exempt from income tax."

The ruling, naturally, affects firemen in fire departments throughout the country, where disability payments, even for a limited period, equal the normal full-time salary.

Fire Control Tests

(*Continued from page 12*)

the building and sealing of holes was necessary before the test was begun. Chief Ramsdell and Chief Charles McGinty, of the South Foster Fire Department, and their fire fighters took the responsibility of making these preparations. Fire fighters from the South Foster Fire Department labored to split and saw the railroad ties. Chief John Crowley, of North Scituate Police Department, was responsible for maintaining traffic control on the Hartford Turnpike.

Philadelphia's Daily Radio Program

One of the features of the Philadelphia Fire Department's year-round fire prevention campaign is a daily news broadcast from Station WIP devoted to fires and fire alarms. Lieutenant Joseph Costello, of the Department, makes these broadcasts directly from Fire Department Headquarters. On this page is a typical script from the program. This was broadcast on December 10, 1953, and contained warnings on hazards that accrue during the Christmas season.

CONTROL: SOUND . . . FADE OUT AND UNDER.

ANNOUNCER: FIRE ALARM! . . . Here is the Daily Fire Report of the past 24 hours brought to you by WIP co-operating with the Philadelphia Fire Department.

REPORTER: Lieutenant Joe Costello, reporting directly from Fire Headquarters.

ANNOUNCER: And now . . . first, the Fire Score!

REPORTER: Thus far this year, there have been 24,860 calls for the Fire Department. . . . In the past 24 hours there were 49 calls; 45 actual fires and services . . . 11 in private homes and apartments . . . 1 in a place of business . . . 10 calls for the Rescue Squads . . . 24 other department services . . . 4 false alarms!

ANNOUNCER: These 4 false alarms cost you, Mr. and Mrs. Philadelphia, $2,400.00.
Now the biggest fire in Philadelphia during the past 24 hours!

JOE: I'm very happy to report today that there were no extra alarm fires nor any serious fires during the past 24 hours . . . here are the fire calls that lasted the longest and were the most newsworthy . . . 2047 Webster Street . . . at 9:19 yesterday morning . . . the three-story brick, private dwelling occupied by Marion Tarbro and family . . . fire started in a bucket-a-day stove in the first floor, front room, and had spread throughout the first floor and up the stairway before the arrival of fire fighters from Engine Co. 1, commanded by Lieut. Armand Bianchini, who immediately ordered his company to stretch off both a 1-in. and a 1½-in. line and take the smaller line up the stairs and the 1½-in. through the first floor. . . . Mrs. Tarbro, who was sleeping on the second floor, was awakened by the smoke and picking up her 2-month-old daughter tried to come down the stairway but was driven back by the smoke and flames . . . she was forced to leap out the second story rear window with the baby. In the fall, the baby slipped out of her arms. Mrs. Tarbro landed safely on a pile of clothes and when she looked around for the baby, she found it had been caught by a nail through its bunting and was hanging on the rear kitchen window . . . taking the baby down, she left the rear yard to safety . . . both mother and baby were taken to Graduate Hospital, examined and found to be uninjured . . . fire fighters worked for one hour and one minute before this job was completed.

ANNOUNCER: Cause of Fire? . . . An over-heated bucket-a-day stove. . . . A fire in a North Philadelphia apartment house!

JOE: 649 N. 10th Street . . . at 7:38 last night . . . a three-story, brick apartment house occupied by Mrs. Mary Pratt and others. . . . Mrs. Pratt smelled smoke and traced it to the second floor middle room where she found the mattress and bedclothing on fire. . . . Engine 26 from 10th and Buttonwood responded to the alarm in 1 minute and took their 1-in. line up the interior stairway and put out the fire in the mattress and bedclothing, then rolled up the mattress and took it out to the street for a thorough overhauling and wetting down . . . an efficient job requiring but 19 minutes duty.

ANNOUNCER: Cause of Fire? . . . Smoking in Bed! . . . A fire up in Roxborough!

JOE: 6111 Ridge Avenue . . . at 7:04 this morning . . . a three-story, brick cleaning and dyeing establishment occupied by the Renu-it Co. . . . This fire started in a neon sign in the first floor, display window, and had burned through the ceiling into the flooring of the second floor before arrival of Engine 39 firemen . . . using their 1-in. booster line very effectively, they made a good stop, keeping the fire confined to the window and a small portion of the flooring of the second floor . . . 1 hour and 7 minutes fire duty needed to clear up this situation.

Lieutenant Joseph Costello broadcasting his program "Fire Alarms" over Station WIP.

ANNOUNCER: Cause of Fire? . . . A defective neon sign. A fire in an industrial plant in North Philadelphia!

JOE: 1147–53 N. 4th Street . . . at 2:12 this morning . . . the 5-story building housing the Royal Pioneer Paper Box Manufacturing Co. . . . fire was discovered on the third floor at the west side of the building . . . material on top of a paper box sealing machine was burning . . . firemen from Engine Co. 29 used a 2½-gallon extinguisher to quickly put out this blaze . . . then removed the burned debris to the street while Truck Co. 7 was ventilating the building . . . 38 minutes required to straighten things out.

ANNOUNCER: Cause of Fire? . . . An overheated paper-box sealing machine ignited material piled on top of it. The Fire Tip of the Day!

JOE: Mr. and Mrs. Philadelphia. . . . There is a large billboard on the South Broad St. side of City Hall proclaiming "Check Fires and *be sure* of a Merry Christmas." We of the Fire Department hope that all Philadelphians reading that sign will be particularly careful with their Christmas trees and decorations.

(*Continued on page 29*)

Hotel Collapse Kills 5 Chicago Firemen

TO CHICAGO fire fighters it might have been just another fire. They had responded to an alarm in the early morning hours of December 17 when fire involved a grocer's market on the first floor of the old "dollar-a-day" Reliance Hotel building at 1702 W. Madison Avenue in the West Side District. The fire had been knocked down and 43 hotel occupants were rescued successfully. Orders had been issued to "pick up and return to quarters." The men were collecting their lines and some were making a last check to see that all hotel guests had been evacuated when it happened.

Between 3:44 and 3:49 A.M., according to Chicago's Assistant Fire Commissioner, Anthony J. Mullaney, three floors and walls of the building collapsed, killing 5 fire fighters and one hotel occupant. Another guest and 24 more fire fighters were injured in the collapsed structure.

During the next twelve hours members of the Department worked at top speed to release those trapped in the wreckage. Most of this work had to be done by hand in near-zero temperatures while one of the remaining walls teetered dangerously. Of those who were rescued, 12 required extensive hospitalization and some were treated for exposure.

Victims were from a number of Chicago fire companies, including Hook and Ladder Companies 2 and 19; Engine Companies 30, 31, 34 and 107; and Squad 2.

Chief Timothy Sheely of the 7th Battalion was also among the injured. Some of the survivors were pinned beneath the debris for more than eight hours before rescue was effected.

Chicago fire fighters removing a victim from the building wreckage. Most of the debris required tedious removal by hand. (*Associated Press Wirephoto.*)

Lieutenant Emil Frank, of Truck Co. 2, was buried in the debris for six hours before this picture of his rescue was taken. (*Wide World Photo.*)

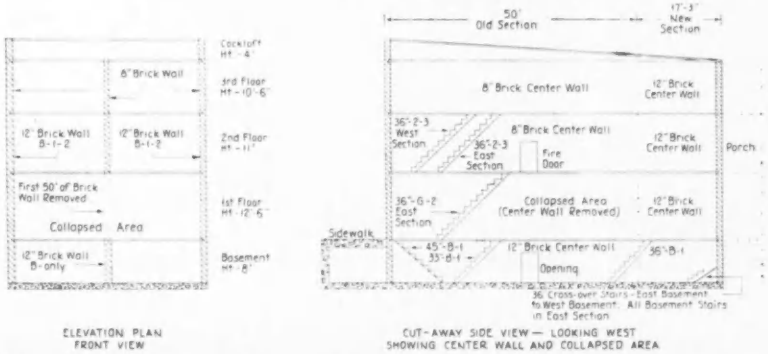
POST-ANALYSIS of the building revealed that it had been constructed in 1885 and an addition had been made to the rear in 1900. Remodeling was done about 1928. Sketches on this page explain the wall and interior construction.

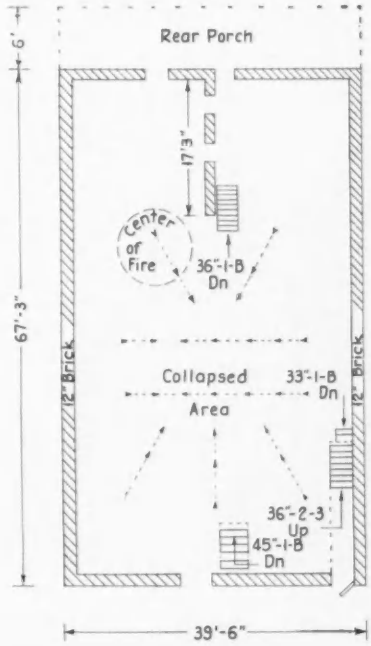
At some time in the past approximately 50 feet of the brick division fire wall on the first floor was removed. The amount and size of supports of this wall have not been determined. On the second and third floors there were division fire walls with automatic fire doors. These walls were 8-in. thick for fifty feet in from the front of the building. The last 17 ft. 3-in. sections of wall were 12-in. thick.

The fire had been confined to the rear of the first floor where it had started, but the part which collapsed was not involved in the fire. Rescue work and removal of all victims was under the direct supervision of Assistant Fire Commissioner Mullaney, who reported to FIREMEN that the collapse was caused by overload and structural failure due to removal of the division fire wall on the first floor, without proper connection of the structural supporting columns to girders, or use of any pin anchors to tie the floor joists to the walls.

The coroner's inquest jury supported the fire department's report that the building could collapse regardless of fire in the structure.

RELIANCE HOTEL — 1704-06 WEST MADISON STREET





(*Above and right*) These sketches were taken from drawings by Battalion Chief Frank L. Hasnerl of the 7th Division, Chicago Fire Department.

Salt Lake City Designs New Monitors

By Assistant Chief D. E. White
Training Division
Salt Lake City Fire Department

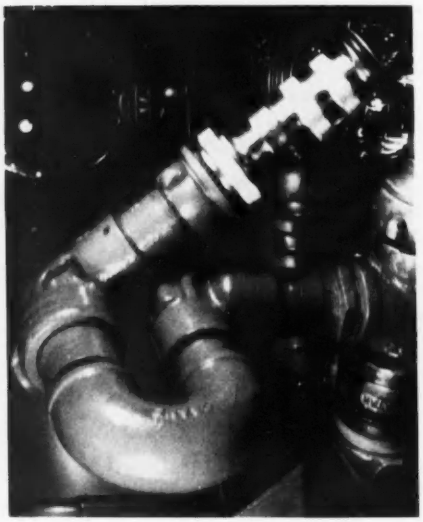
THE Salt Lake City fire department has been experimenting in the development of more efficient heavy stream devices. Many of the monitor nozzles that have been on the market were found to have inadequate water ways for the volume that it was desired to project through a given nozzle. Excessive pressure losses frequently were observed with such nozzles.

It occurred to members of the fire department that industrial type swivel connections might be employed for handling large flows for fire streams. Such couplings are available from several manufacturers and are tested to withstand pressures up to 800 lbs. per square inch and still provide relative ease of operation. The first nozzle of this type built at the local fire department shops used swivel couplings having 1½-in. water ways. The couplings employed were made by the Chiksan Company, Brea, California.

This nozzle was mounted on one of the department's auxiliary trucks having a 500 gpm front-mounted pump. It is illustrated in several of the accompanying photographs.

Success with the nozzle for 1½-in. water ways led the department to experiment with a larger monitor, mounted on top of one of the 1000-gallon pumpers and connected directly to the pump. It was thought, originally, that one 2½-in. opening on top of the pump using 3-in. pipe and 3-in. joints would allow discharge of well over 1000 gpm without excessive friction loss. However, when delivering 1000 gpm through a 1¾-in. nozzle, 120 lbs. friction loss resulted. Larger discharges were proven to be impractical.

Accordingly, a second intake was wyed into the base of the nozzle and using a second pumper, a delivery of 1600 gpm was secured through a 2½-in. nozzle tip.



Close-up of small monitor nozzle made with 1½-in. swivel joints and mounted on a front-mounted pump. This was the first unit built and showed the feasibility of using industrial type swivel joints with free water ways to provide an effective heavy stream pipe. An adjustable type fog nozzle is attached.

THE department is now building a nozzle using a 4-in. outlet from the top of the pump, and a 4-in. pipe with 3½-in. swivel joints. A second intake into the base of the nozzle will be through a clappered siamese. This should permit use of tips up to 2½-in. and provide a deck gun of tremendous power.

One desirable feature about this nozzle design is that it permits effective range of delivery from 200 to 1600 gpm through a monitor that can be put into action immediately and operated by one man. The pumpers that have been equipped with this type of nozzle all have

A monitor nozzle built with 3-in. "Chiksan" ballbearing swivel joints mounted on a FWD pumper shown delivering 500 gpm through cn Elkhart jumbo fog nozzle at 125 lbs. nozzle pressure. The pump was operating at 190 lbs. and a single intake from pump to nozzle supplied the stream.

The 3-in. swivel nozzle is shown supplying 1189 gpm through a 2-in. solid stream tip at 100 lbs. nozzle pressure and 190 lbs. pump pressure. The pump was fed by two 50-ft. lengths of 3-in. hose and one 50-ft. length of 2½-in. hose from a 60-lb. hydrant residual pressure.

Fireman Sam Van Rowley demonstrating the ease of rotation and handling of the nozzle using 3-in. swivel joints. At the highest pressures and at discharges up to 1600 gpm one man can rotate the nozzle to a full 360 degrees and the nozzle can be elevated or lowered while being rotated.

large water tanks and operation can be started from the tank on the apparatus before the 3-in. hose lines are connected to the pump supply.

One desirable feature of these nozzles is that the cost for materials has been less than $125 each which compares favorably with other heavy stream devices.

(As explained in the November and December, 1953, issues of FIREMEN, the Salt Lake City Fire Department, headed by Chief J. K. Piercey, is one of the municipal units reporting to Public Safety Commissioner Lyle B. Nicholes. The excellent training and maintenance program is under the direction of Assistant Chief D. E. White, assisted by Captain William Kresser and Lieutenant A. L. Thorstrom. — ED.)

(*Left*) The small deck gun made with 1½-in. swivel joints is shown providing a water curtain from a front-mounted pump on an auxiliary truck. This nozzle has been of great value for immediate attack of brush and rubbish fires. One fire involving several sheds, fences, trees, and a lumber pile was knocked down by this nozzle using 350 gallons of water in the booster tank before a line could be laid. This nozzle can deliver up to 400 gpm and may be used while the machine is in motion. (*Right*) Another view of the front mounted nozzle adjusted to provide a greater reach of the fog jet. The front mount pump is supplied by a 3-in. hydrant line.

Form 68

FIRE APPARATUS RECORD

MONTH YEAR

FIRE DEPT. MAKE CO.

DAILY

	Road Miles	Engine Miles	Pumping Time Hr.	Pumping Time Min	Gasoline Level	Motor Oil Level	Prime Oil Level	Radiator Water Level	Battery Liquid Level	Booster Tank Level	Extinguishers	Tires	Brake Pedal	Lights-Horn-Siren	Appliances and Equipment	Gasoline Received
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2																
3																
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22																

WEEKLY

	Brakes & Steering	Fan Belt	Windshield Wiper-Motor Gauges	Pump-Valves-Gauges	Packing Glands	Drains and Connections	Gears & Bearings	Relief Valve or Governor	Sun. Inhalators-Masks Cylinders	Mon. Generator-Lights Smoke-Ejectors	Tue. Deluge Sets-Cutting Outfits	Wed. Appliance-Tools-Ropes-Ladders	Thu. Reserve-Equipment	Fri. Tires-Pressure	Sat. Battery-Lowest Cell Reading
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MONTHLY

	Lubrication	Hose Change	Oil Change	Battery on Charger	Operator's Initials	Remarks
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Useful Chart for Maintenance of Fire Apparatus

Copies of this useful chart for daily, weekly and monthly inspections of fire apparatus are being issued to every fire department in the State of Ohio by State Fire Marshal Charles R. Scott. While not indicated here, the chart is tabulated for 31 days of a month. It thus may present instant identification of apparatus condition and necessary maintenance, in addition to serving as a timetable for keeping fire apparatus in running condition at all times. Fire departments in other states may want to copy this record form.

Hotel Fire in Marshfield, Wisconsin

Based on a report by Chief Verlyn W. Ziegahn, Marshfield Fire Department, who also supplied the photos on this page.

ON DECEMBER 22, 1953, Marshfield, Wisconsin, fire fighters responded to a telephone alarm for a fire in the Hotel Blodgett. Temperature was seven degrees above zero when the alarm hit at 7:17 A.M., and a 20 mph wind was helping the fire spread as first apparatus arrived.

Fire fighters were successful in rescuing 12 occupants of the building and in assisting people from an adjacent annex. The hotel was a 3-story and attic brick structure which had been built in 1887 and remodeled in 1928. It was approximately 80 ft. long, 40 ft. wide and 40 ft. high, with heavy timber floor framing and built-up wood framing on the roof. The first floor and hotel lobby had terrazzo tile but all other floors were of wood.

A janitor, making his basement check at 7 A.M., found that a boiler was overheated due to failure of the water cut-off valve. He decided to let the boiler cool but within fifteen minutes fire had started and he called the fire department.

Lack of fire stopping in the walls and unprotected openings allowed the fire to spread vertically to the upper floors and attic. A clothing store on the first floor was heavily stocked for Christmas and this material provided considerable fuel for the fire.

Three engine companies, a ladder company and a squad unit of Chief Ziegahn's department were the first units to arrive. Truck No. 1 and Squad No. 1 were spotted in front of the involved building while the engine companies were hooking up to hydrants. Engine 1 was a 1000 gpm pumper which was spotted about a block to the southeast of the hotel and operated from a hydrant on the 10-in. main of South Central Avenue. Four 2½-in. lines were supplied by this pumper; three were used as hand lines in the east and south side of the hotel, while the fourth line supplied a deck gun on Squad 1.

The 750 gpm pumper of Engine 2 had moved a block to the north on South Central Avenue and took water from another hydrant supplied by the 10-in. main. From this pumper two 2½-in. hand lines were directed to the rear of the hotel, while the third 2½-in. line supplied the deck gun.

Marshfield's Ladder 1 and Squad 1 positioned in front of the hotel. Christmas stock in the Jerrold's clothing store was considered a total loss when it became involved in the early stages of the fire.

Fire fighters operating a hand line into the first floor of the hotel building. Altogether nine 2½-in. hand lines were used in the attack.

Engine 3, a 500-gpm pumper, took water from a hydrant supplied by a 6-in. main about two blocks to the west of the building. Two 2½-in. hand lines from this pumper also were directed to the rear of the hotel.

Mutual aid response came from the Stratford and Spencer Fire Departments, each of whom furnished a 500 gpm pumper and supplied single 2½-in. lines to support the fire attack. The fire brigade of the Roddis Plywood Corporation (see FIREMEN for February, 1953) also responded with a 500 gpm pumper for standby support. This 12-man brigade was supplemented by 6 more firemen from the Roddis plant.

After three hours of fire fighting control was established. Despite close exposures on three sides of the hotel fire damage was confined to the original building. Total damage was estimated at $150,000 and water and smoke damage was evident in adjacent buildings. However, fire fighters used rubber tarpaulins advantageously for protection of business stock and records. Portable pumps were also utilized to take water from the basements after fire control was established.

Scene at front of building in early stages of fire. Fire fighters made a good stop in protecting close exposures on both sides of the hotel.

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PLASTIC

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AND
DROP BRIM

FIRE HELMETS SINCE 1836

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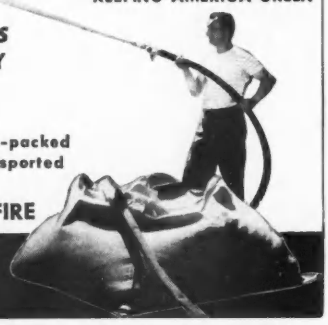
A WATER SUPPLY AT THE SCENE OF THE FIRE



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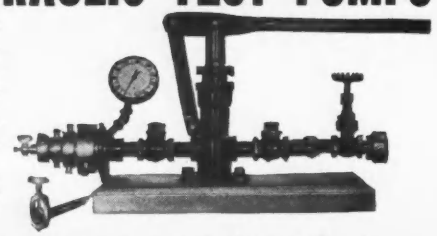
Easy to use — accurate — built for long dependable service. See your Wooster Brass representative or write direct.



Manufacturers of a complete Line of Distinctive Fire Fighting Equipment

HOSE BRASS GOODS — WB LINE — THE WOOSTER BRASS CO. WOOSTER, OHIO

WOOSTER BRASS
WOOSTER, OHIO
A DIVISION OF FYR-FYTER CO.

Fire Prevention Week Contest Winners

PHILADELPHIA, Pennsylvania, and Kentville, Nova Scotia, won the Grand Awards for best 1953 municipal Fire Prevention Week programs submitted in the international NFPA Fire Prevention Week Contest. Kentville led Canadian entrants for the second year in a row.

Grand Awards in the Industrial and Government Divisions of the Contest went to: Atomic Power Division of Westinghouse Electric Corporation, Pittsburgh, Pa. (Industry); Hickam Air Force Base, Hawaii (U. S. Air Force); Fort Lewis, Washington (U. S. Army); and Naval Station, Seattle, Washington (U. S. Navy).

Winners in the U. S. municipal classes included: Class I — Philadelphia, Pa.; Class II — Memphis, Tennessee; Class III — Providence, Rhode Island; Class IV — Anderson, Indiana; Class V — Wausau, Wisconsin; Class VI — Atlantic, Iowa; Class VII — Montezuma, Iowa.

Canadian winners were: Class A — Vancouver, British Columbia; Class B — Hull, Quebec; Class C — Arvida, Quebec; Class D — Kentville, Nova Scotia; Class E — Thurso, Quebec.

The international Board of Judges included (above, left to right), seated: A. Leslie Ham, Dominion Board of Insurance Underwriters, Montreal, Quebec; Barry Truscott, president, Camden Fire Insurance Association, Camden, New Jersey. Standing: Dale K. Auck, director, Fire Protection Division, Federation of Mutual Fire Insurance Companies, Chicago; Kyle P. Laughlin, director, Fire Services Division, U. S. Federal Civil Defense Administration, Washington, D. C.; and Chief Henry G. Thomas, Hartford, Connecticut Fire Department, and president of the International Association of Fire Chiefs.

New York Fire Fighters Unsung Heroes of 47 Hour Pumping Stint

Reprinted from November 1953 "Fire Lines." Published by Uniformed Firemen's Association Local Union No. 94 of Greater New York.

"THE current newspapers, periodicals and journals in their coverage of the recent freak storm that hit New York City made mention of collapsed houses, the disruption of services and the demolition of boardwalks and damage to the outer fringe of the city. Understandably, with so much sensational news available no cognizance could be taken of a company of firefighters, who in a most unspectacular way fought for 50 consecutive hours to re-establish one of the least known but most vital supply lines within the confines of the United States.

"Newton Creek, which separates Brooklyn and Queens, and flows into the East River is bordered by major oil refineries and yards, coal pockets, lumber yards and mills, copper smelting works, storage warehouses and myriad other factories and manufacturing plants. The creek is spanned by a drawbridge at the intersection of Grand Street and Metropolitan Avenue in Brooklyn connecting it to a continuation of those streets in Queens.

"A surprising fact is that Newton Creek provides transportation for more shipping daily than is carried by the entire Mississippi River. Thus, when the raising mechanism of this drawbridge was submerged, rendering the bridge immovable, a major calamity was in the making. It was due entirely to the foresight of the Chiefs of the 11th Division and the 35th Battalion, and the courage and determination of the officers and members of Engine Company 206 that the calamity was averted.

"For 47 consecutive hours, using a 30 year old, second size American-LaFrance pumper, by constantly relieving each other, by constantly replenishing the gasoline and oil supplied to the pumper, the men of that company pumped 450,000 gallons of water out of two pits (one on each side of the bridge) which housed the bridge raising mechanism. Each pit is 50 feet by 20 feet by 30 feet or 30,000 cubic feet, and contained 225,000 gallons of water.

"In the process, 340 gallons of gasoline, 3 gallons of oil, and innumerable gallons of coffee were consumed. It took 4 large suction connections to reach the 40 feet to the bottom of the pit. By generating 160 pounds of pressure at the pumper into the ejector through a 2½ inch line, the water was expelled through the 4½ inch suctions hooked together.

"Amazingly, during the entire 50 hours of such duty, Engine Co. 206 was maintained as an operating fire unit by the 35th Battalion by manning the hose wagon with detailed men.

"Within minutes after the raising of the bridge, oil tankers and coal barges, etc., which had been backed up and stymied for two days and nights began to pass through, and the circulation of the lifeblood of America was resumed. It is only fitting and proper that the credit for this undertaking be given to no single individual. Let this unspectacular achievement pass anonymously into the history of our department.

"The roster of the names of the chiefs of the 11th Division and their aides, the chiefs of the 35th Battalion and their aides, the officers and members of Engine Co. 206, and the details who manned the hose wagon provide too long a list to be remembered, but let us not forget that these men in an obscure corner of our city, on a little-known creek, performing a necessary task without fanfare or the expectation of glory best exemplify the fundamental and continuing tradition of the New York Fire Department."

Hazards of Butadiene

CHEMICAL Safety Data Sheet SD-55, published by the Manufacturing Chemists' Association, contains information on the fire, explosion and health hazards of 1, 3-butadiene and safe procedures for unloading, storing, handling and waste disposal. Butadiene has a flash point below 0° F., ignition temperature 842° F., and explosive limits 2.0% and 11.5%.

Copies of SD-55 may be obtained from the Manufacturing Chemists' Association, 246 Woodward Building, Washington 5, D. C., 25 cents.

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Don't waste valuable minutes at the scene of the emergency for your breathing equipment to start generating. Use the Scott AIR-PAK and you are ready to go in seconds. The AIR-PAK supplies all the cool, fresh air you need. You can go directly to the trouble source without concern for the concentration of gas or vapor because you are absolutely independent of surrounding atmosphere with the AIR-PAK.

No complicated training or practice is necessary. Cool air operation prevents fogging. Using air instead of oxygen inspires confidence in the most inflammable atmosphere. Clear, convenient gage assures dependable check on air supply.

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Symbol of Quality-Service-Protection for the modern firefighter

The famous Midwestern Manufacturing Company trademark is your guide to the finest protective clothing that money can buy — garments that are specifically designed to help safeguard your men's life on every run — enable them to use their equipment to the fullest advantage.

★ Exclusive Safety Features
★ Tailored for Comfort
★ Softer, More Pliable Materials
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We manufacture both rubber and fabric fire coats. In our vast selection of materials you will find the type of fabric exactly suited to your climate and needs. For complete information on our full line of firemen's protective clothing, see your Midwestern dealer. A letter to the factory will also bring you literature and material samples for your inspection.

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you need a good **LEADER . . .**

SACHEM LEADER LINE SHUT-OFF NOZZLE

Furnished in 1½" size for hose connections. Tip end of nozzle with booster thread for connecting booster hose for clean-up. Fire Departments far and wide have come to depend upon this rugged nozzle. It is truly a leader.

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Phones 93 & 94 Charles Town, West Virginia
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Membership Report

IT WON'T be long until fire schools in the United States and Canada begin their 1954 training classes. Readers of FIREMEN may make preparations for attending such classes by referring to the "Dates to Remember" column which will appear in FIREMEN each month.

To supplement the practical application of fire fighting principles which are taught in state and provincial firemen's training schools many fire departments are developing a library of authoritative fire training publications. The 2,117 fire departments and 25,253 fire fighters who currently participate in NFPA Fire Department Membership have shown great interest in the "Fireground Library" which has been advertised in the magazine for the past four months. This useful supplement to fire training is a combined book offer consisting of four volumes. Separate price of the volumes totals $13.50 but when all four are obtained in the "Fireground Library" the price is only $9.75.

The set is bound in a sturdy container and includes the NFPA publications "Attacking and Extinguishing Interior Fires" and "Fire Fighting Tactics"; (both by Lloyd Layman); "Operating Fire Department Pumpers"; and a new edition of "Handling Hose and Ladders."

Has your fire department obtained a set? If not, write to the NFPA Publications Department, 60 Batterymarch Street, Boston 10, Massachusetts.

NFPA Welcomes:

Connecticut: White Hills Fire Company No. 5, Shelton.

Illinois: Sunny Crest Volunteer Fire Department, Inc., Homewood; La Harpe Fire Protection District, La Harpe; Chief Charles Phillips, Loves Park.

Maine: West Falmouth Fire Company, Portland.

Maryland: Chillum-Adelphi Volunteer Fire Department, West Hyattsville.

Massachusetts: Housatonic Fire Department, Housatonic.

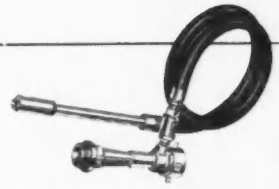
Minnesota: Chief L. H. Clark, Cloquet Fire Department, Cloquet.

New York: Pound Ridge Fire Department, Pound Ridge.

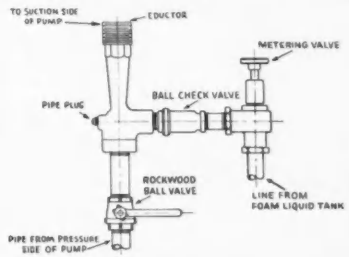
Oregon: Willakenzie Rural Fire Protection District, Eugene; Sweet Home Fire Department, Sweet Home.

Pennsylvania: Monroeton Fire Department, Monroeton.

This Rockwood equipment puts Rockwood FOAM to work for you —

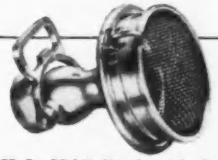


Foam Eductor introduces Rockwood FOAM into hose lines for use with Rockwood type FFF FogFOAM Nozzles. Connects discharge gate of fire trucks to hose line — hydrant to hose line — or one length of hose to another. In 1½" and 2½" sizes. Operates from 75 to 175 p.s.i. at Eductor inlet. Approved by Underwriters' Laboratories, Inc.

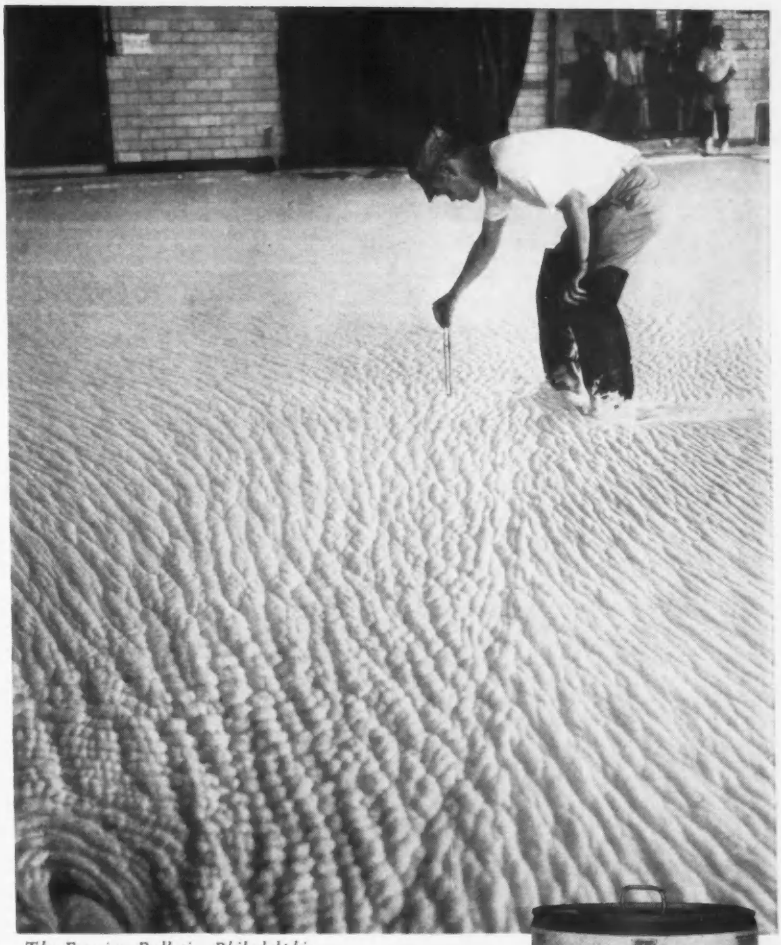


Around-the-Pump Proportioner Model Dual "B" automatically feeds FOAM into hose lines, assures accurate mixing. Used when pressure is maintained at pump. Operates in range from ¾" booster lines to 2½" hose lines. Maximum discharge 400 g.p.m. Custom engineered proportioning systems for fire trucks, crash trucks, etc. also available. Write for details.

Type SG-60 FogFOAM Nozzle with FF extension features FogFOAM and solid FOAM stream discharge. Performance for FogFOAM — 450 g.p.m. at 100 p.s.i. — for solid FOAM stream 500 g.p.m. at 100 p.s.i. Approved by Underwriters' Laboratories, Inc.



Type FFF FogFOAM Nozzle with FogFOAM screen discharges wide pattern of FogFOAM. Also available with shaper to discharge long solid FOAM stream. For 1½", 2½" and 3½" hose lines. 2½" size discharges 200 g.p.m. at 100 p.s.i. Approved by Underwriters' Laboratories, Inc.



The Evening Bulletin, Philadelphia

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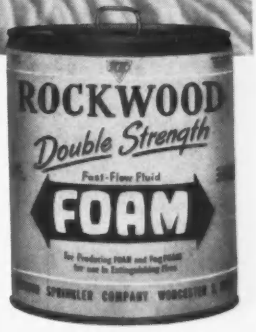
Put fire-fighting punch into ordinary water! Three parts of Rockwood Double-Strength Fast-Flow Fluid FOAM mixed with 97 parts water produces the flame-smothering FOAM blanket above. Spreads rapidly even at sub-zero temperatures. Seals off combustible vapors, flows freely around construction. Quickly re-seals if broken. A boon to fire-fighters!



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Standard Straight Foam Play Pipe and FOAM Pick-Up Tube discharge FOAM from 1½" hose line. Discharges 60 g.p.m. at 100 p.s.i. Range: approximately 55 feet. Approved by Underwriters' Laboratories, Inc. and FML.

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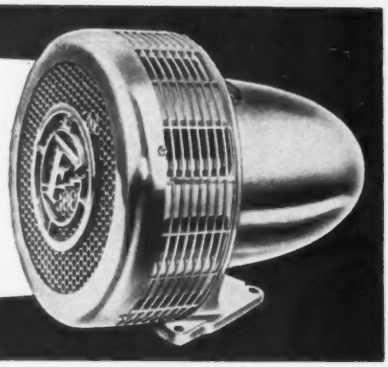

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YOU NEED IT! Don't risk the lives of your men and damage to your new apparatus with sirens not powerful enough to be heard.

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Those who have it say "no siren ever gave me protection like the Q". Those who have heard it, but still have weak, outmoded sirens are *getting* the "Q"!

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Team it up with the famous BEACON RAY for the finest and safest emergency vehicle operation.

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Monrovia, California. Fire fighters move in to attack the forest fire on San Gabriel mountain on December 28, 1953. An estimated 12,000 acres of brush and timber was destroyed as two forest fires were aided by an 80 mph wind. Many families were left homeless and laboratories of the Mount Wilson Observatory were threatened before control was finally established. A multi-million dollar fire loss was estimated. (*United Press Photo.*)

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Circul-Air is the patented, electrically operated hose dryer which circulates prewarmed fresh air through coiled wet hose at the rate of 5 to 6 air changes per minute. It's designed to lengthen hose life, improve the appearance and functional design of new fire houses, and to save floor space and hard work. No other drying method is so fast — so economical — so easy to use.

Circul-Air Dryers have passed the Approvals Tests and are listed by the Underwriters' Laboratories, Inc., Chicago and the Canadian Standards Association.

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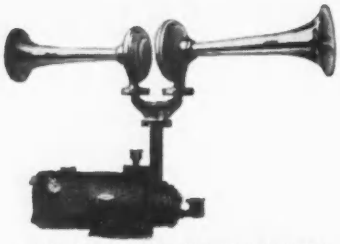

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We will use the SIGNALS FOR.....

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Individual's Liability in Unincorporated Fire Units

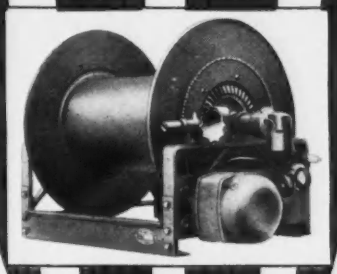
THE December, 1953, issue of *The Volunteer Fireman*, published by the Firemen's Association of the State of New York, highlighted an interesting legal decision. It cited a recent court case which pointed out the liability of individual members of an unincorporated firemen's organization.

Under the laws of that state an unincorporated association has been construed to be an organization composed of a body of persons united without a charter for the prosecution of some common enterprise. It is not a legal entity separate from the persons who compose it and the liability in any suit against such an organization is that of the individual members as individuals.

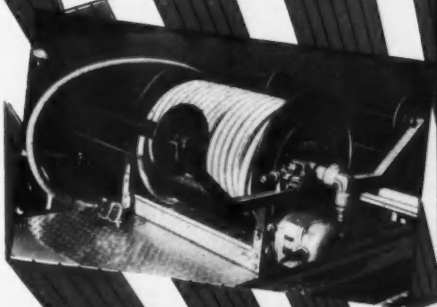
Because of this the FASNY Law Committees for years have advised all fire organizations to incorporate under the Membership Corporations Law. Volunteer fire departments throughout the country should heed this advice for the legal protection of their members.

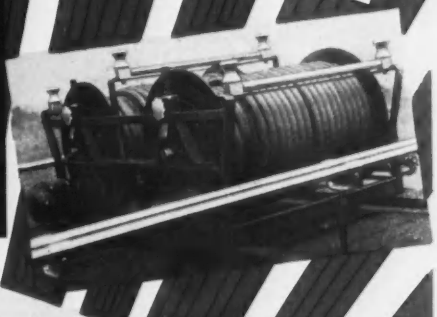
Do All of Your Fire Fighters Subscribe to FIREMEN?

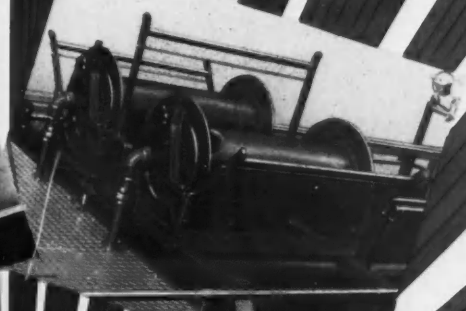
No Finer Hose Reels Made!



Acceptance of Hannay Hose Reels by the nation's foremost fire fighting equipment manufacturers is the best endorsement of this superior equipment







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DARLEY CHAMPION 750 GALLON PUMPER

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A highly efficient pumper apparatus with the Champion Three Stage Centrifugal Pump powered by Diamond T. The Pump is the Type SH750 which delivers 750 gallon Underwriter performance plus 60 gallons per minute at 850 lbs. for high pressure fog.

Or this Darley Apparatus is also available in Underwriter capacities of 600 GPM and 500 GPM. Modern commercial truck motors have adequate power for either 750, 600 or 500 GPM pumps.

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Philadelphia's Daily Radio Program

(*Continued from page 16*)

ANNOUNCER: Once again the Fire Score of the Day!

JOE: During the past 24 hours there were 49 fire calls . . . 45 of which were actual fires and services . . . 11 in private homes and apartments . . . one in a place of business . . . 10 calls for the Rescue Squads . . . 24 other department services and 4 false alarms, totalling 24,860 fire calls thus far, this year . . . that's it for today . . . see you tomorrow.

ANNOUNCER: This has been your Daily Fire Report brought to you over WIP in cooperation with the Philadelphia Fire Department . . . listen again tomorrow for another Daily Fire Report . . . your Fire Reporter has been Lieut. Joe Costello and this is —— speaking.

Seattle Patrol No. 7

Patrol No. 7 is one of five boats operated by Seattle, Washington, for controlling harbor traffic and fighting waterfront fires. The 65-ft. converted Army T boat has an 8-in. DeLaval centrifugal pump driven by a General Motors Series 71 Diesel Engine. Three monitors deliver 2000 gpm at 90 pounds pressure.

●

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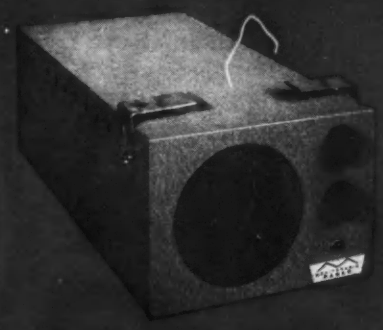

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Both of these units are invaluable as additional receivers for separate frequency channel monitoring to supplement 2-way radio communications systems. They are ideal as monitors of 2-way systems in mobile units not requiring a transmitter. Perfect for dispatching service cars, ambulances, trucks, buses, salesmen, civil defense personnel, special investigators, special police, volunteer firemen, fire truck units, taxicabs; for alerting industrial power and public utilities, forestry and railroad personnel, or use as a Walkie-Talkie monitor. They can be used for intercom between vehicles on two frequency systems. These are only a *few* of the uses that are limited only by the imagination! They are housed in durable, all metal cabinets. Simple to install, universal mounting...you have nothing to adjust! All units are shipped with crystal installed to order and aligned to frequency. Available in both 6 and 12 volt versions for 6 and 12 volt battery ignition systems.

For information on complete line of fixed and mobile communications receivers, write for form 22.

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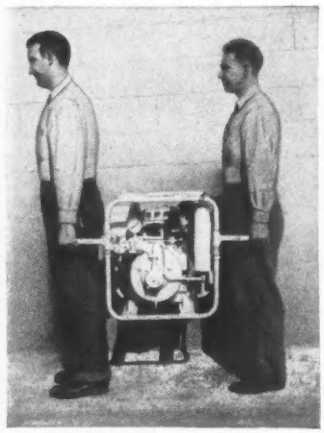

Above — Frame-mounted FZZ can be easily carried by two men. It is also available mounted on rubber cushioned steel channels, or on two truck-type wheels.

Fire Companies frequently write us telling of the many practical ways they use their portable Hale type FZZ, such as the following:

- For fighting field or forest fires from moving trucks.
- For "wetting down" and standby use, thus releasing major equipment.
- For pumping out flooded cellars and elevator shafts after fire, flood or other emergency.
- For relaying water to pump or booster tank from sources inaccessible to major Fire Pumpers.
- For factory protection in fighting fires before major equipment arrives.
- For fighting oil or other type fires requiring foam. (Built-in foam proportioner available when specified.)

The FZZ will supply from draft, 60 GPM at 90 lbs. pump pressure; and 150 GPM at 30 lbs. Can supply two capable streams through 1½-in. lines, using nozzle tips up to ½ in.

Note: Discharge Adapter can be supplied for use with 2½-in. fire hose.

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Ask for demonstration.

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CONSHOHOCKEN, PA.

Fire Pumps in All Standard Capacities

1954 IAFC Conference

ACCORDING to the January issue of the Fire Chiefs *Newsletter*, the Rice Hotel in Houston, Texas, will be headquarters for the 1954 Conference of the International Association of Fire Chiefs. Chief T. J. Powers of the Houston Fire Department will serve as Host Chief.

The Conference is scheduled to be held on October 18–21. Demonstrations and exhibits will be at the Coliseum Arena. Further details will appear in future issues of FIREMEN.

Saskatchewan Training

IN THE November, 1953, issue of FIREMEN, the report of state and provincial firemen's training stated that a total of 88 firemen had participated in training in the Province of Saskatchewan, Canada. A digit was dropped from this figure.

Actually, as reported by Fire Commissioner R. A. W. Switzer, of Regina, Saskatchewan, 888 firemen received such instruction, in addition to 115 Boy Scouts, 69 High School Wardens, and 1274 adults and children who received fire prevention instruction.

The firemen's training program included 268 volunteers who participated in 13 schools; 218 who participated in special courses; 300 Civil Defense candidates; 50 fire brigade members who received special instruction on pumper operation; and 52 persons who received instruction on operating CD pumpers.

The Province of Saskatchewan Firemen's Training Division includes a Chief Fire Fighting Instructor and an assistant instructor, both of whom conduct itinerant training throughout the province. Apparatus consists of a 1½-ton Metro truck with a variety of instructional aids and equipment, and 3 CD 500 gpm Bickle Seagrave pumpers.

Chelsea Pays and Pays

A NEWSPAPER report states that the City of Chelsea, Massachusetts, is still paying for a reconstruction loan for the conflagration which destroyed 3500 buildings with a twelve-million-dollar loss in 1908. The 1954 payment (45 years after the fire) will be $38,000. The city is reported to be in financial difficulties, and the mayor plans to close the central fire station as one economy measure.

It is not indicated how the city plans to finance a loan for reconstruction if a second conflagration occurs as a result of reduction in the fire department. Perhaps it is depending upon the generosity of state and federal agencies, or just taking a chance.

How's Your Fire Alarm?

THE fire on New Year's day at Parsonburg, Maryland, destroyed a 6-room dwelling. Fire fighters had to be alerted by auto horn and an auxiliary siren when the regular town fire siren failed to work. While such failures are relatively infrequent, this occurrence does point up the need of auxiliary means of calling the fire department should power failure, sleet storm, or any other abnormal condition interfere with the regular fire siren. It also points up the importance of regular daily tests of the fire siren, whistle, or horn to determine that these are in operating condition. Such tests are called for in NFPA Standard No. 73—"Municipal Fire Alarm Systems."

Dates to Remember

Minnesota: The 1954 Annual Minnesota State Fire School will be held April 26–30 at the University of Minnesota, Agricultural Institute, Farm Campus, St. Paul 1, Minn. Inquiries should be directed to Leonard C. Lund, Deputy Commissioner, Fire Marshal Department, Saint Paul 1, Minnesota.

Ohio: The Maumee Valley Free Fire School will be held in Napoleon, Ohio, May 22–23. Write to Secretary Earl Campbell, Northwestern Ohio Volunteer Firemen's Association, Napoleon, Ohio, for further information.

Los Angeles City Tank Truck
Here's a 2500-gallon tank truck now in service for the Los Angeles, California, Fire Department. It is powered by a 296 hp Hall-Scott engine and the truck body, built by Yankee Motor Bodies Corporation, is mounted on a Kenworth chassis.

facts you ought to know about the new glass fiber fire hose!

Boston Woven Hose & Rubber Co. has introduced a revolutionary new fiber glass hose which is 20% lighter than conventional fire hose. Weighs only 81 lbs. per 100 feet! (Without couplings.) Boston Fiber Glass Fire Hose is superior to any you can use. Here's why:

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6. **EASIER TO COIL AND STORE!** Higher flexibility and lighter weight make after-fire chores easier.
7. **QUICKER DRYING!** Plastic treated fiber glass yarn absorbs no water.

Boston Fiber Glass Fire Hose is lighter, easier to handle, more compact. A fire truck can handle up to 50% more hose in the same space!

You don't normally run trucks over hose under pressure, but repeated tests and x-rays show that BOSTON Fiber Glass Fire Hose revealed no damage from such brutal treatment!

For More Information About Boston Fiber Glass Fire Hose Contact the District Office Nearest You

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KANSAS CITY, MO. • 926 New York Life Bldg.
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BI-LATERAL was *first* to construct hose with the bi-lateral non-creasing feature for longer life, *lower cost* in the long run and true safety. Folds flatter, handles more easily!

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AND BI-LATERAL was *first* to furnish free fire hose record cards to fire departments. They are *still* available — send for a supply!

"When you buy with your conscience, with safety and economy in mind, you'll BI-LATERAL!"

Bi-Lateral
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The "Human Conduct" Hazard

COMBATING and extinguishing fires are not the only activities for which a fire fighter must be prepared. He must also expect to encounter some strange vagaries of human conduct. Two examples of such eccentricities occurred on Christmas and December 31, 1953.

The first incident happened in Davisville, Rhode Island, where Chief Arthur H. Selley and members of the North Kingstown Fire Department responded to a grass fire near a dwelling. When they arrived on the scene a fire truck was parked on the property line of the nextdoor neighbor. This man was enraged and warned fire fighters against "trespassing on my property." As Chief Selley was moving into the lane between the two houses, the man charged up to him carrying a .38 caliber Winchester rifle. With this weapon he jabbed Chief Selley in the stomach with sufficient force to double him over. Later the Chief required hospital and X-ray examination.

In courtroom testimony the man stated "I had three alternatives, load the gun, use it as a bludgeon, or poke him with it. I poked him with it." (Fortunately — ED.) Then, he stated, he loaded the gun and patrolled his property until the police arrived.

He was bound over on a charge of assault with a dangerous weapon. On a second charge, brought by Davisville police, he was adjudged guilty of interfering with a fire chief's duties and was sentenced to 20 days in the Providence County Jail with recommendations for psychiatric examination.

ON DECEMBER 31 fire fighters in Springfield, Massachusetts, responded to an alarm for a dwelling fire. Two of them opened a door to move a line into the building. They were both victims of a shotgun blast.

The owner apparently used a shotgun "booby trap" for protection against burglars. Both of the Springfield fire fighters required hospital treatment for their wounds.

In Massachusetts such use of weapons as "spring guns" is illegal. This particular device was a shotgun which rested on a footlocker. A cord connected the trigger to the door handle. When the fire fighters opened the door pellets from the 16-gauge weapon were discharged into their feet.

The owner was arrested by police and arraigned on a charge of assault with a dangerous weapon.

Spring Clean-Up

VERY soon many fire departments will be launching their Spring Clean-Up campaigns. Many of these yearly "drives" will be made most effective through inspection of mercantile establishments and other occupancies.

The NFPA Fire Prevention and Clean-Up Campaign Committee again this year has prepared some attractive posters and stickers to emphasize these activities. There will also be a "Fire Chief's Packet" of newspaper and radio releases, prepared with cooperation of the IAFC.

Further information may be obtained by writing to the NFPA Publications Department, 60 Batterymarch Street, Boston 10, Mass.

Benefits for Volunteers

CHARLES H. DRAUDT, Chairman, Mid-Hudson (New York) Inter-County Relations Committee reports that there is now a bill in the House of Representatives which is of interest to volunteer fire fighters and fire departments.

On May 5, 1953, during the first session of the 83rd Congress, Mrs. St. George introduced H.R. 5015, which was referred to the Committee on Education and Labor. Purpose of the bill is "to extend the benefits of the Federal Employees' Compensation Act to volunteer firemen injured while performing duty on property under the jurisdiction of the United States." For determining amount of compensation, the bill provides that the monthly pay of volunteers who are eligible should be considered as $200 per month at the time of the injury.

H.R. 5015 also provides that the U.S. shall be liable for loss or damages of property owned by any volunteer fire department, city, village or district, which occurs while a volunteer fire department is using such property to render assistance on property under the exclusive jurisdiction of the United States.

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Large city or small town — you need the advantages that a fumble-proof Municipal Fire Alarm System can give you.

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There is no substitute for the Municipal Fire Alarm System

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What's New in Fire Equipment, Catalogs and Bulletins

Interested in new fire apparatus? Write for descriptive literature to *Howe Fire Apparatus Co., Dept. FM3, 1405 W. 22nd St., Anderson, Indiana.* . . . The McCulloch Portable Fire Pump can be a key factor in farm fire fighting. For details of Model 7FP Centrifugal Fire Pump, write *McCulloch Motors Corporation, Los Angeles 45, Cal.* . . . See page 31 for facts about the new Boston glass fiber fire hose. Contact district office nearest you for more information.

New England fire departments call *Ira A. Ballou, Jr., Dover & Allerton Ave., E. Providence, R. I.*, for Ward-LaFrance fire apparatus. . . . Keep up-to-date on safe breathing equipment for your fire department. Latest information is yours from *Scott Aviation Corp., 236 Erie St., Lancaster, N. Y.* . . . A new ratchet hydrant wrench requiring a short, 4" swing for fast opening is offered the fire service by the *S-T Hydrant Wrench Co., P. O. Box 921-A, Holyoke, Mass.*

Latest illustrated booklet on Rockwood fire fighting products is yours for the asking at *Rockwood Sprinkler Company, 88 Harlow St., Worcester 5, Mass.* . . . Recent design improvements have increased engine horsepower and reduced total weight of American-Marsh 3XD portable pump. Learn how this pump can help you in many ways! Ask for Bulletin 8120. *American-Marsh Pumps, Battle Creek, Mich.* . . . Before you contract for fire apparatus, check the specifications with Seagrave pumpers, aerial ladders, etc. Write now for apparatus data to *Seagrave Corp., 2000 So. High St., Columbus 7, Ohio.*

For design and safety in fire helmets, check Catalog 340, available at *Cairns & Brother, Inc., Allwood, Clifton, N. J.* . . . You can lengthen the life of your fire hose, save floor space and hard work, with Circul-Air Hose Dryer. Write for free catalog to *Circul-Air Corp. 575 East Milwaukee, Detroit 2, Mich.* . . . Need electric air horns for your station house, for air raid, rescue squad and ambulance calls? Write *Clark Cooper Co., Inc., Market St., Palmyra, N. J.*

Complete line of fire department quality equipment is illustrated in a 44-page booklet. Write to *W. S. Darley & Co., Chicago 12, Ill.* . . . For the full story of safe, sure alarms with a municipal fire alarm system write for new illustrated booklet to *Gamewell Company, Newton Upper Falls 64, Mass.* . . . Story of the many practical ways portable Hale FZZ fire pump can be used will amaze you. Write to *Hale Fire Pump Co., Conshohocken, Pa.*

Foremost fire fighting equipment manufacturers use Hannay Hose Reels in their apparatus. For full information on regular and explosion-proof motor types, write *Clifford B. Hannay & Son, Inc., Westerlo, N. Y.* . . . Plan now for a water supply at the scene of farm, brush and woods fires this spring and summer. Get the Harodikes portable canvas water tank story from *Harodikes, Inc., North Dighton, Mass.* . . . When buying uniforms, the Metcalf Bros. & Co., Inc. fabric trade mark assures you of uniformity in color and service. Ask for sample brochure from *Metcalf Bros. & Co., Inc., 45 East 17th St., New York, New York.*

You can look to Powhatan for a full line of hose brass goods. Write for descriptive catalog to *Powhatan Brass & Iron Works, Ranson, W. Va.* . . . Before you order firemen's protective clothing, ask for free literature and material samples from *Midwestern Mfg. Co., Mackinaw, Illinois.* . . . For information on complete new line of fixed and mobile communications receivers, write to *Radio Apparatus Corp., 55 North New Jersey St., Indianapolis 4, Ind.* . . . Need folding chairs or banquet tables for your fire house? Get illustrated catalog from *J. P. Redington & Co., Dept. 97, Scranton 2, Pa.*

How Indian Fire Pumps control fires and help save on expensive equipment is described in latest catalog. Write to *D. B. Smith & Co., 408 Main St., Utica 2, N. Y.* . . . You can test hose lines of all sizes and lengths directly from hydrants without tying up fire apparatus. Ask for Trumpet Hydraulic Test Pump literature from *Wooster Brass, Div. of Fyr-Fyter Co., Wooster, Ohio.*

A new UL listed residential fire protection system using the Tempo-Set Fire Detector is announced by *Fire Alarm Thermostat Corp., 53 West 23rd St., New York 10, New York.* . . . New illustrated literature on RCA 2-way mobile radio is announced. Write for Catalogs .30 and .3011 to *Engineering Products Dept., RCA Victor Division, Camden 2, New Jersey.* . . . Handy cabinets with "See-Thru" drawers for small parts and card filing in maintenance shops and fire station use are now available. Write for literature to *General Industrial Company, 5738 N. Elston Avenue, Chicago 30, Illinois.*

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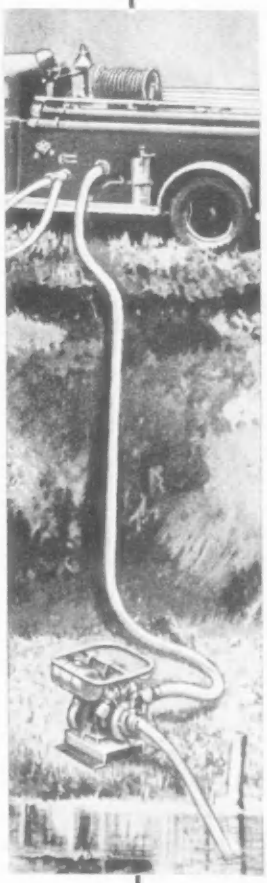

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Every fire station should have at least one copy of the new NFPA Handbook in its library. Every fire fighter taking promotional examinations will want a personal copy of this reference volume on fire control and fire protection. Many fire chiefs and officials responsible for purchasing equipment will find a valuable guide to "approved equipment" in the 96 pages of advertising.

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